

CLINICAL DRUGS IN THE UMLS

The RxNorm Project

Clinical Drug Interoperability

- Cooperative NLM/VA/FDA Plan
- Level of What is Prescribed
- About 10,000 Drugs Approved by FDA
- 81,165 Clinical Drugs in UMLS
 - ▲ Need to Overcome Missed Synonymy
 - ▲ Traditional UMLS Methods Need Refinement
- Eventually, Part of FDA Approval Process

The Approach

- Standard Notation for Clinical Drug developed in consultation with HL7
 - ▲ Ingredient
 - ▲ Strength
 - ▲ Dose Form
- Standard List of Dose Forms (HL7)
- Standard Method for Representing Strength

The RxNorm Plan

- Create Normalized Form for Clinical Drugs
- UMLS Concepts
 - ▲ Ingredients
 - ▲ Drug Components
 - Ingredient and Strength
 - ▲ Dose Forms
 - ▲ Drug Formulations (the RxNorm)
 - Drug Component and Dose Form
- Labeled Relationships Between Concepts

Example

Ingredients

sulfamethoxazole

trimethoprim

Components

sulfamethoxazole 800 mg

trimethoprim 160 mg

Dose Form

Oral Tablet

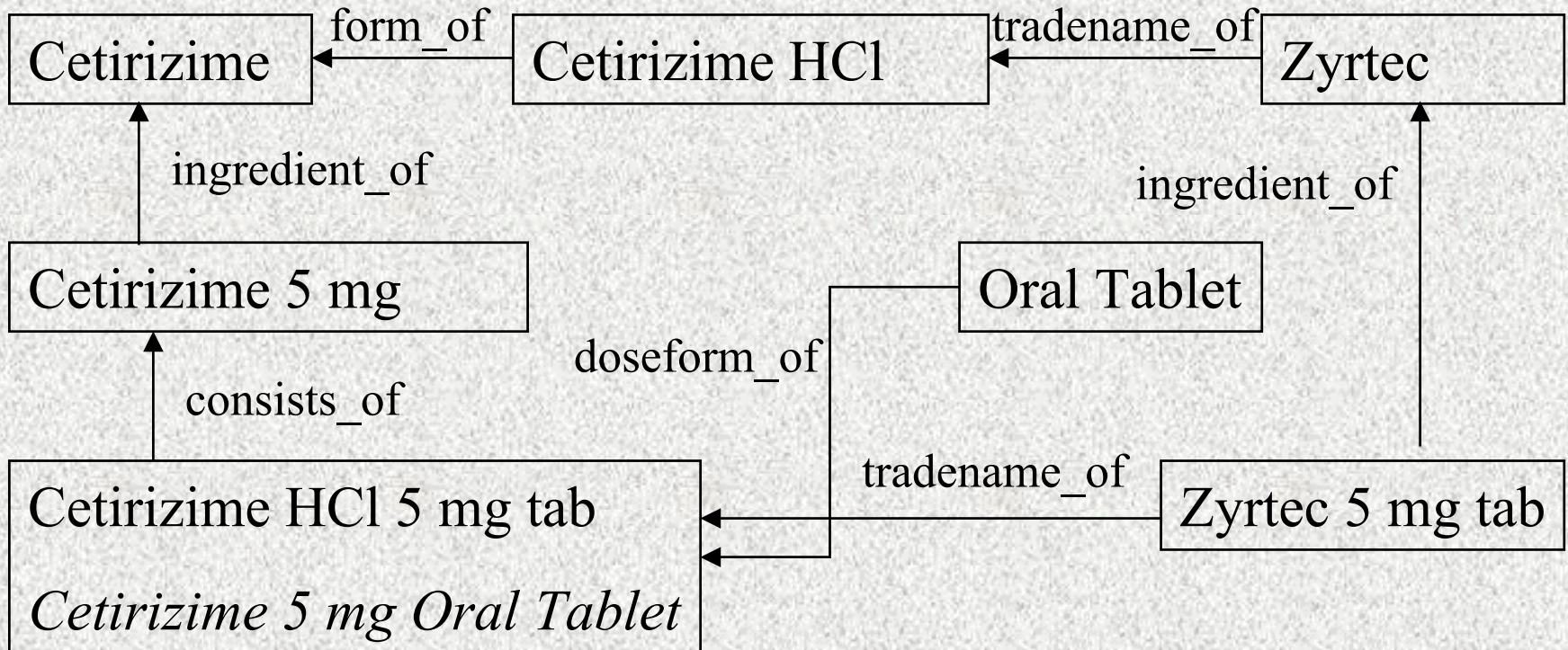
RxNorm

sulfamethoxazole 800 mg/trimethoprim 160 mg oral tablet

Goal

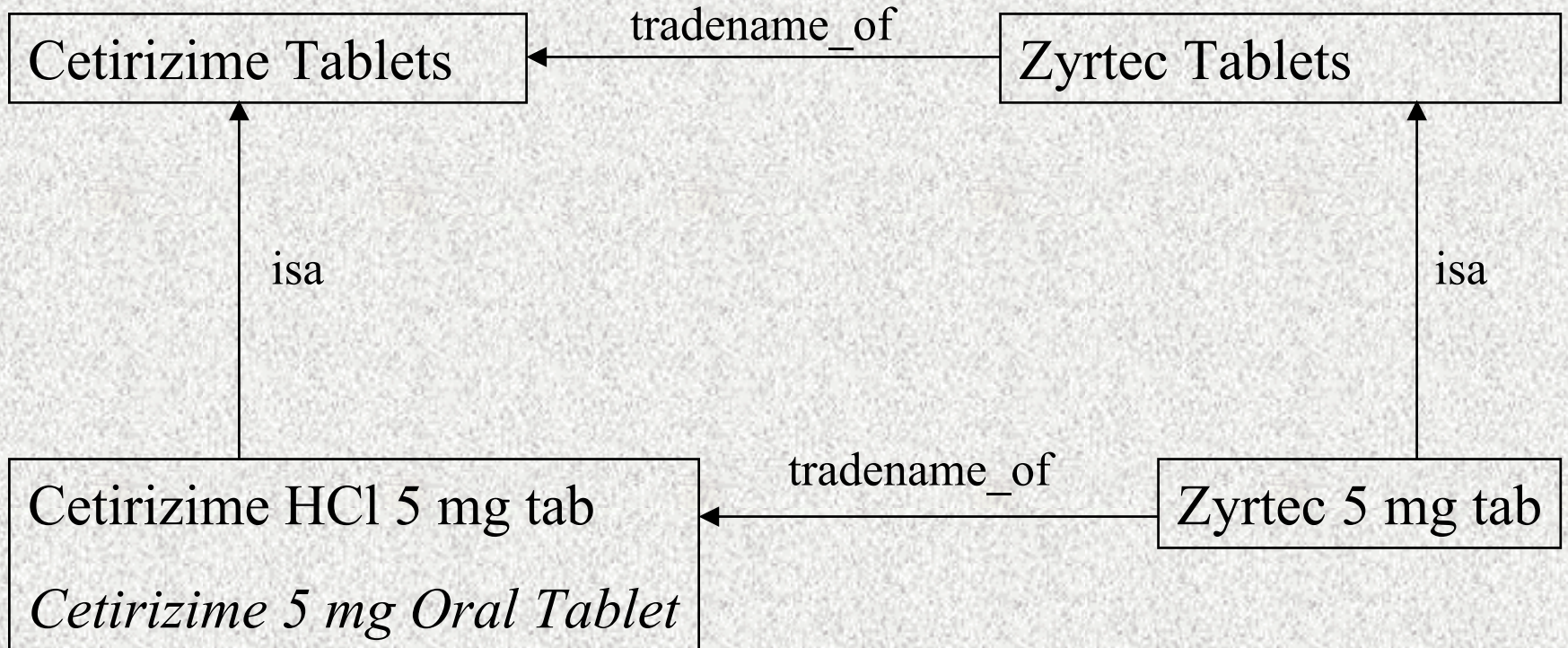
- Every Concept with STY Clinical Drug (e.g., from VA, Multum, Micromedex, First Databank, Medispan) Related to RxNorm
- Possible Relationships
 - ▲ Equivalent (Same Concept)
 - ▲ Mapped_to
 - ▲ Tradename_of
 - ▲ Inverse is_a

Example



Each box represents a UMLS concept
RxNorm Italicized
Arrows represent labeled relationships

More Relationships



Timetable for Completion

- First Experiment - VANDF - Meta2002AA
(January, 2002)
 - ▲ Test Model, Experience Creating RxNorm
- Second Experiment - Meta2002AB (May, 2002)
 - ▲ All Sources
 - ▲ Scalability of Approach
 - ▲ Refine Dose Forms and Model
 - ▲ Achieve Full Map for Most Common Sample

Timetable (continued)

- Complete Mapping - Meta2003AA
(January, 2003)
- More Frequent Distribution Model
(July, 2003)
- Continuing Feedback and Improvement
- Released with Drug Approval by FDA
(2004?)